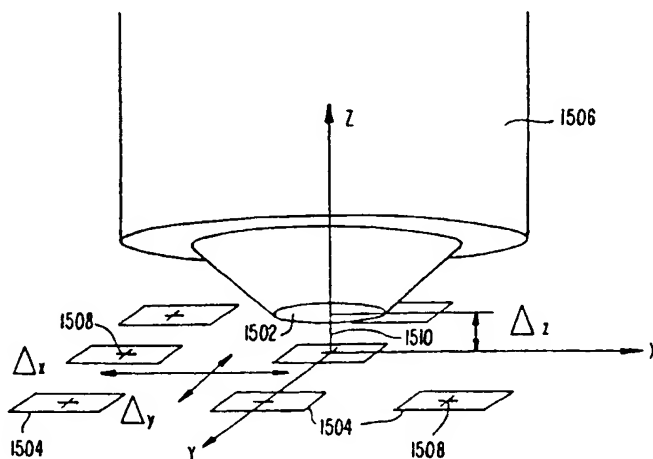




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification</b> <sup>6</sup> : <b>H01J 49/00, 49/04</b>	<b>A3</b>	<b>(11) International Publication Number:</b> <b>WO 98/15969</b> <b>(43) International Publication Date:</b> 16 April 1998 (16.04.98)																								
<b>(21) International Application Number:</b> PCT/US97/18147 <b>(22) International Filing Date:</b> 8 October 1997 (08.10.97)  <b>(30) Priority Data:</b> <table border="0"><tr><td>60/028,105</td><td>9 October 1996 (09.10.96)</td><td>US</td></tr><tr><td>60/028,106</td><td>9 October 1996 (09.10.96)</td><td>US</td></tr><tr><td>60/029,255</td><td>25 October 1996 (25.10.96)</td><td>US</td></tr><tr><td>60/035,202</td><td>10 January 1997 (10.01.97)</td><td>US</td></tr><tr><td>60/035,366</td><td>10 January 1997 (10.01.97)</td><td>US</td></tr><tr><td>60/048,987</td><td>9 June 1997 (09.06.97)</td><td>US</td></tr><tr><td>60/050,949</td><td>13 June 1997 (13.06.97)</td><td>US</td></tr><tr><td>08/898,715</td><td>22 July 1997 (22.07.97)</td><td>US</td></tr></table> <b>(71) Applicant:</b> SYMYX TECHNOLOGIES [US/US]; 3100 Central Expressway, Santa Clara, CA 95051 (US).  <b>(72) Inventors:</b> WEINBERG, W., Henry; 25 Hidden Valley Lane, Woodside, CA 94062 (US). MCFARLAND, Eric, W.; 607 N. Third Street, San Jose, CA 95112 (US). CONG, Peijun; 10350 Leola Court #2, Cupertino, CA 95014 (US). GUAN, Shenheng; 1512 Fairway Green Circle, San Jose, CA 95131 (US).		60/028,105	9 October 1996 (09.10.96)	US	60/028,106	9 October 1996 (09.10.96)	US	60/029,255	25 October 1996 (25.10.96)	US	60/035,202	10 January 1997 (10.01.97)	US	60/035,366	10 January 1997 (10.01.97)	US	60/048,987	9 June 1997 (09.06.97)	US	60/050,949	13 June 1997 (13.06.97)	US	08/898,715	22 July 1997 (22.07.97)	US	<b>(74) Agents:</b> BECK, David, G. et al.; Townsend and Townsend and Crew LLP, 8th floor, Two Embarcadero Center, San Francisco, CA 94111 (US).  <b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i>  <b>(88) Date of publication of the international search report:</b> 27 July 2000 (27.07.00)
60/028,105	9 October 1996 (09.10.96)	US																								
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**(54) Title:** MASS SPECTROMETERS AND METHODS FOR RAPID SCREENING OF LIBRARIES OF DIFFERENT MATERIALS**(57) Abstract**

Methods and apparatus for screening diverse arrays of materials are provided. In particular, techniques are provided for rapidly characterizing compounds in combinatorial arrays of materials for discovering and/or optimizing new materials with specific desired properties. According to one aspect, a scanning mass spectrometer is used which includes an ionization chamber and a collector that outputs an electrical signal responsive to the quantity of gas ions contacting the collector surface. A conduit system selectively withdraws samples from the array of materials, passing the samples into the ionization chamber. In a specific embodiment, reactants are passed through the conduit system to the selected regions of interest on the substrate. Means are provided to selectively heat regions on the substrate.

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